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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,616	12/14/2005	Yoav Sintov	1319MMG-US	7265
7590 02/26/2007 David Klein Dekel Patent Beit Harofim Room 27 18 Menuha VeNahala Street Rehovot, 76209 ISRAEL			EXAMINER DUPUIS, DEREK L	
			ART UNIT 2883	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			02/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/560,616

Applicant(s)

SINTOV, YOAV

Examiner

Derek L. Dupuis

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

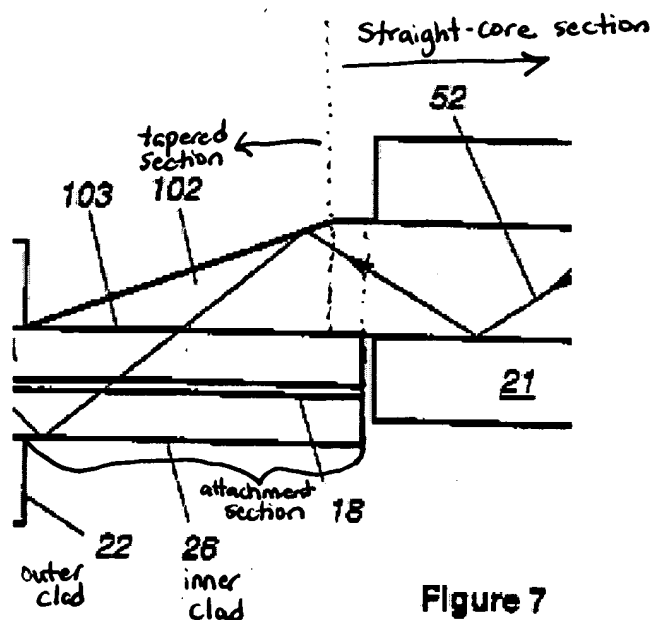
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed 12/4/2006 have been fully considered but they are not persuasive. In page 4, applicant argues that Heflinger et al fails to disclose a receiving fiber comprising an inner clad to which the straight core section and the tapered core section of the attachment section are attached. The examiner respectfully disagrees. In figure 7 of Heflinger et al, it can be seen that the tapered core section and at least a portion of the straight core section are attached to the receiving fiber. See the portion of figure 7 duplicated below.

**Figure 7*****Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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3. Claims 1-4, 6, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by

Heflinger et al (EP 1065764 A2).

4. Regarding claim 1, Heflinger et al teach an optical apparatus in figure 7 comprising a pump guiding fiber (25) comprising a fiber cladding (21) and a fiber core. The pump guiding fiber (25) includes an attachment section comprising a straight core section and a tapered core section (102). A receiving fiber (20) comprising an inner clad (26) is attached to the attachment section of the pump guiding fiber (25). As seen in figure 7, the divergence angle of light in the pump fiber (25) α_s and the receiving fiber (20) α_f are approximately the same. Therefore, the k constant in the relationship ($\alpha_f = k\alpha_s$), is approximately 1. See paragraphs 13-16 and 29. In figure 7 of Heflinger et al, it can be seen that the tapered core section and at least a portion of the straight core section are attached to the receiving fiber.

5. Regarding claim 2, Heflinger et al teach an apparatus as discussed above in reference to claim 1. As can be seen in figure 7, the ratio between the minimum cross sectional area of the tapered core section taken along the optical axis of the fiber and the cross sectional area of the straight core section taken along the optical axis of the fiber is very small and is clearly within the range of 0.01 to 0.50.

6. Regarding claims 3 and 4, Heflinger et al teach an apparatus as discussed above in reference to claim 1. Heflinger et al teach optically coupling an end of the pump guiding fiber to a pump source (12) at an end opposite the attachment end. The pump source is a semiconductor laser diode (see paragraph 13).

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7. Regarding claim 6, Heflinger et al teach an apparatus as discussed above in reference to claim 1. The receiving fiber is double clad including an inner clad (26), and outer clad (22), and a core (18) doped with a rare-earth element such as Er or Yb.

8. Regarding claim 9, Heflinger et al teach an apparatus as discussed above in reference to claim 1. The length of the straight core section shown in figure 7 is at least as long as the length of the tapered core section. The entire straight core section is attached to the receiving fiber at one end.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Heflinger et al (EP 1065764 A2)*** as applied to claims 1-4, 6, and 9 above, and further in view of ***DiGiovanni (US 5,937,134)***.

11. Regarding claims 7 and 8, Heflinger et al teach an apparatus as discussed above in reference to claim 6. The receiving fiber is double clad including an inner clad (26), and outer clad (22), and a core (18) doped with a rare-earth element such as Er or Yb. Heflinger et al do not explicitly state that the dual clad fiber has an outer protective jacket layer.

12. DiGiovanni teaches a dual clad fiber and teaches that as an alternate to using a protective outer cladding, it is routine in the art to use an additional outer protective jacket layer to protect the fiber (see column 5, lines 31-42).

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13. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the dual clad fiber of Heflinger et al to include an outer jacket as taught by DiGiovanni since an outer cladding used for protection and an additional outer protective layer were art-recognized equivalents for protecting an optical fiber.

Conclusion

14. Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Starodoumov (US 7,046,432 B2)* teach a pump guiding fiber attached to a receiving fiber where the pump guiding fiber includes an attachment section having a tapered portion and a straight portion (see figure 1b). *DiGiovanni et al (US 5,864,644)* teach a pump guiding fiber attached to a receiving fiber where the pump guiding fiber includes an attachment section having a tapered portion and a straight portion (see figure 3a).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek L. Dupuis whose telephone number is (571) 272-3101. The examiner can normally be reached on Monday - Friday 8:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Derek L. Dupuis
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Supervisory Patent Examiner
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